



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/823,613	04/14/2004	William W. Wiles JR.	88664 00001	5086
20873	7590	09/14/2005	EXAMINER	
LOCKE LIDDELL & SAPP LLP			NGUYEN, HIEU P	
ATTN: SUE COTT			ART UNIT	
2200 ROSS AVENUE			PAPER NUMBER	
SUITE 2200			2817	
DALLAS, TX 75201-6776			DATE MAILED: 09/14/2005	

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

<b>Office Action Summary</b>	<b>Application No.</b> 10/823,613	<b>Applicant(s)</b> WILES ET AL.	
	<b>Examiner</b> Hieu Nguyen	<b>Art Unit</b> 2817	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 04/14/2004.  
 2a) ☐ This action is **FINAL**.                      2b) ☐ This action is non-final.  
 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) ☒ Claim(s) 1-4 is/are allowed.  
 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.  
 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.  
 10) ☒ The drawing(s) filed on 14 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \* c) ☐ None of:  
         1. ☐ Certified copies of the priority documents have been received.  
         2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
         3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>4/14/2004</u> | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Specification***

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

Regarding claim 1, the specification fails to support the transimpedance amplifier having “a first voltage divider circuit coupled between said first amplifier output and said first amplifier non-inverting input” and “a second voltage divider circuit coupled between said first amplifier output and said second MOS resistor device source terminal”, in combination with the rest of the limitations of the claim(s).

Regarding claim 2, the specification fails to support the transimpedance amplifier having “a photodiode coupled between said first amplifier non-inverting input and said inverting input”, in combination with the rest of the limitations of the claim(s).

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hadley (U.S 5786730) discloses a transimpedance amplifier comprising: an amplifier (2), MOS resistor (8) and a voltage divider (potential divider defined by resistors 5 and 6), but lacks the second amplifier coupled to the gate terminal of MOS resistor device.

Yoon (U.S. 6593810) discloses a transimpedance amplifier system comprising: a first gain stage (see detail of Fig. 4) having a single input and an output, an NMOS resistor (15), a second amplifier (55) having an inverting input, a non-inverting input and an output being coupled to gate terminals of the NMOS resistor, a voltage divider (see Fig. 4, potential divider defined by resistors R1 and R2), but the first amplifier doesn't have two input terminals for inverting and non-inverting inputs.

This application is in condition for allowance except for the following formal matters: failing to provide proper antecedent basis for the claimed subject matter (see claims 1 and 2).

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

### ***Reasons for allowance***

Claims 1 and 2 would be allowable if amended to overcome the objections above.

The following is an examiner's statement for reasons for allowance:

Claims 1-4 are allowed over the prior art because none of the prior art disclosed or suggested showing the particular structure recited in these claims namely:

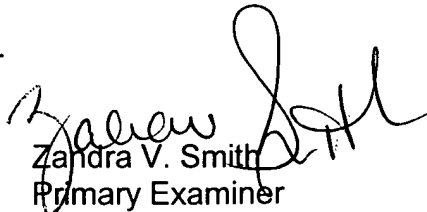
Claims 1-4 call for, among others, a structure of a transimpedance amplifier comprising "a first amplifier having an inverting input, a non-inverting input and an output" and "a second amplifier having an inverting input, a non-inverting input and an output." In combination with the rest of the limitations of the claim(s).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hieu Nguyen whose telephone number is 571-272-0218. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on 571-272-1769. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hieu Nguyen  
AU: 2817

  
Zandra V. Smith  
Primary Examiner

hn